APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,802	02/23/2004	Maxim Raya	3829-022-27	5443

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EXAMINER
MERED, HABTE

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
07/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Office Action Summary	Application No.	Applicant(s)
		10/782,802	RAYA ET AL.
		Examiner	Art Unit
		Habte Mered	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 January 2007*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/3/05*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This Office Action is in response to communication filed on 02/23/2004.

2.   Claims 1-12 are pending. Claim 1 is the base independent claim.

Claim Rejections - 35 USC § 103

3.   **Claims 1-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Schmitz, (US 6, 665, 269 B1) in view of Yildiz (US 7, 016, 948 B1).

Schmitz teaches method and apparatus for filtering network traffic in 802.11

wireless LAN.

4.   Regarding **claim 1**, Schmitz discloses a method for detecting misbehavior in a

contention based communication network **(Figure 1)**, this method comprising the steps

of: recording at least some of invalid frames **(See Figure 4, 404 – bad frame is**

recorded in bad frame buffer per channel) with their respective station identification

(see Figure 5) issued by the stations accessing an Access Point **(Figure 1, element**

14), recording at least some of valid frames **(See Figure 4, 404 – good frame is**

recorded in bad frame buffer per channel) with their respective station identification

(See Figure 5) issued by the stations accessing the Access Point.

Schmitz fails to disclose determining, for each station, a scrambled ratio based

on the number of invalid frames and the number of valid frames, detecting a

misbehavior station based on a station, which has a substantially lower ratio than the

other stations.

Yildiz teaches method and apparatus for detailed protocol analysis of frames

captured in 802.11 LAN.

Yildiz discloses determining, for each station, a scrambled ratio based on the number of invalid frames and the number of valid frames, detecting a misbehavior station based on a station, which has a substantially lower ratio than the other stations. **(See Column 12:44-58 – Yildiz teaches the Expert Analysis tool is capable of providing such information)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Schmitz's' to incorporate a step of determining, for each station, a scrambled ratio based on the number of invalid frames and the number of valid frames, detecting a misbehavior station based on a station, which has a substantially lower ratio than the other stations. The motivation to collect such type of statistics is to determine when to generate maintenance alarm.

5.   Regarding **claim 2**, the combination of Schmidt and Yildiz discloses a method wherein the frames are Acknowledgment frames in a TCP/IP protocol. **(See Yildiz Figure 5 and Table 1B)**

6.   Regarding **claim 3**, the combination of Schmidt and Yildiz discloses a method, further comprising the steps of: - calculating an average scrambled ratio on the stations currently connected with the Access Point and setting a suspicious status in reference with a given station when the same has a scrambled ratio which is below of a predefined threshold value. **(Yildiz shows an equivalent arrangement in Column 13:1-14 and in Figure 29)**

7.   Regarding **claim 4**, the combination of Schmidt and Yildiz discloses a method, further comprising the steps of:- eliminating the stations for which the ratio is

substantially higher than this first average scrambled ratio, calculating a second

average scrambled ratio on the remaining stations, setting a suspicious status in

reference with a given station when the same has a scrambled ratio which is below of a

predefined threshold value. . **(Yildiz shows an equivalent arrangement in Column**

13:1-20 and in Figures 29 and 30)

8.   Regarding **claims 5 and 6**, the combination of Schmidt and Yildiz discloses a

method, comprising the steps of: - analyzing the frames with their respective time stamp

and station identification, - selecting a frame corresponding to an acknowledgment of a

first station to the Access Point, - calculating a back off time to a next frame sent by a

second station, - comparing this back off time with a lower limit and setting a suspicious

status relative to the second station in case that the back off time is smaller than the

lower limit and wherein the suspicious status is a counter and each positive detection

entails the increment of this counter, and in that, when this counter has reached a

predefined threshold, the second station is considered as cheater. **(See Yildiz**

Columns 2:5-25 and 13:1-25 and Figures 29 and 30)

9.   Regarding **claims 7 and 8**, the combination of Schmidt and Yildiz discloses a

method wherein it comprises the further steps of: - selecting a frame corresponding to

an acknowledgment of the first station, - calculating the back off time to the next frame

of the second station, - successively storing the back off times of the second station for

a given period, - determining the random character of the stored back off times and

considering the second station as cheater in case that the back off times are not

uniformly distributed in a predefined range and further comprises the step of checking

the presence of the maximum value of the range in the stored back off times. **(See
Yildiz Column 16:5-25 and Figure 5)**

10.   Regarding **claim 9**, the combination of Schmidt and Yildiz discloses a method
wherein it comprises the steps of:- calculating an average back off time over the stored
back off times for each station, - calculating an Access Point average value of the back
off times of the Access Point,- setting a suspicious status in reference with a given
station when the same has an average back off value smaller than the Access Point
average back off time value. **(See Yildiz Column 13:35-50)**

11.   Regarding **claim 10**, the combination of Schmidt and Yildiz discloses a method
wherein in case that the transmission of the second station is interleaved, the back off
time is calculated taking into account the sum of a first waiting time following the DIFS
time while the interleaved station starts to transmit and a second waiting time while the
second station starts to transmit. **(This is standard 802.11 back off time calculation
method as illustrated in Yildiz Column 2: 5-15)**

12.   Regarding **claim 11**, the combination of Schmidt and Yildiz discloses a method
wherein it comprises the further steps of: - determining the number of retransmissions
from the Access Point to each station, - determining the average number of
retransmissions over a predefined period of time per station, setting a suspicious status
in reference with a given station when the same has a number of retransmission
substantially below the average number of retransmissions. **(See Yildiz Column 12:15-
26)**

13.   Regarding **claim 12**, the combination of Schmidt and Yildiz discloses a method,

wherein it comprises the further steps - determining the actual duration of a

transmission for a given station, - comparing this duration with the declared NAV value

in the RTS or DATA frames of this station, - setting a suspicious status in reference with

this station in case that the actual duration is smaller than the declared value. **(See**

Yildiz Column 9:50-67)

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Habte Mered whose telephone number is 571 272 6046.

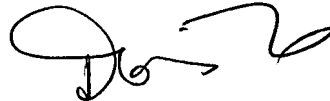The examiner can normally be reached on Monday to Friday 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Doris H. To can be reached on 571 272 7629. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HM
06-23-2007

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SUPERVISORY PATENT EXAMINER
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